SECTION 500

CURB AND EDGING

SECTION 501

CURB, CURB INLETS, CURB CORNERS AND EDGING

DESCRIPTION

501.20 General.

This item of work shall consist of furnishing and setting curb, curb inlets, curb corners and edging on a gravel foundation except for bridge curb which is set in full mortar bed and bituminous concrete curb which is placed on a bituminous concrete base, in accordance with these specifications and in close conformity with the lines and grades shown on the plans or established by the Engineer.

MATERIALS

501.40 General.

Materials shall conform to the requirements specified in the following Subsections of Division III, Materials:

Granite Curb	M9.04.1
Granite Curb Inlets	M9.04.5
Granite Curb Corners	M9.04.6
Granite Edging	M9.04.2
Mortar	M4.02.15
Gravel	M1.03.0, Type c
Anchors M8.01.0	
Cement Concrete Precast Units	M4.02.14
Joint Material	
Tar Impregnated Felted Paper	M9.06.2
Preformed Expansion Joint Filler	M9.14.0
Bituminous Concrete Curb, Types 1, 2 & 3	M3.12.0
Cement Concrete Curb	M4.02.00
Liquid Concrete Penetrant/Sealer	M9.15.0

CONSTRUCTION METHODS

501.60 Excavating Trench.

The trench for the curb shall be excavated to a width of 500 millimeters. The subgrade of the trench shall be a depth below the proposed finished grade of the curb equal to 150 millimeters plus the depth of the curbstone.

501.61 Preparing Foundation.

The foundation for the curb shall consist of gravel spread upon the subgrade and after being thoroughly compacted by tamping shall be 150 millimeters in depth.

The gravel foundation for edging shall be as shown on the plans and shall be thoroughly rammed or tamped until firm and unyielding.

The foundation for the curb inlet shall consist of a full bed of Portland cement mortar on the supporting back wall of the catch basin or gutter inlet and sufficient gravel on each side to support the overhang. The trench for the gravel foundation shall be at least 150 millimeters in depth and 500 millimeters in width. This trench shall be filled with gravel thoroughly tamped to the required grade.

The trench for the curb corner shall be excavated so that there shall be constructed a foundation of gravel which when thoroughly compacted will be 150 millimeters in depth, and extending 150 millimeters beyond the front and back of curb corner to the full depth of foundation. Other acceptable material may be used for backing.

501.62 Setting Curb and Edging.

Curbing, curb corners or edging shall be set on additional gravel spread upon the foundation.

All spaces under the curb, curb corners or edging shall be filled with gravel thoroughly compacted so that the curb, curb corners or edging will be completely supported throughout their length. The curb shall be set at the line and grade required as shown on the plans unless otherwise directed.

Curb, curb corners or edging shall be fitted together as closely as possible except for VA5 curb which shall not fit closer to each other than 5 millimeters.

If curb, curb corners, curb inlets or edging of different quarries is used on the same project, curbing of each particular quarry shall be segregated and set to give uniform appearance.

501.63 Concrete Curb, Corners, and Edging.

A. General.

The curb shall consist of concrete castings molded in place in sections 2 meters long, 600 millimeters in depth, 150 millimeters in width at the top, and 180 millimeters in width at the bottom and with front vertical face. The top front edge of curb shall be rounded to 20 millimeter radius. The ends of curb sections shall be chamfered 6 millimeters.

The edging shall consist of concrete castings conforming to the size and dimensions shown on plans. Straight-edging shall be cast in lengths of 1.25 meters. Edging for curves with radii 100 meters or less shall be straight edging but shall be cast in lengths less than 1.25 meters in order to avoid angles at joints. The ends of all edging shall be normal to the line of face. The edges of edging face shall be chamfered 6 millimeters.

Corners shall match the adjacent curb in size, color and finish. The front arris line shall extend through 1/4 of a circle having a radius of 500 millimeters or 1 meter respectively for Type A or Type B curb corner. The back arris line shall be straight. The plan of the back shall be normal to the top.

All forms shall be set true to lines and grades indicated on plans and as directed and held rigidly in proper position. They shall be either of metal or of acceptable planed and matched lumber of such construction that a smooth surface will be provided.

Expansion joints shall be formed at the intervals shown on the plans using preformed expansion joint filler having a thickness of 10 millimeters. When curb is constructed adjacent to or on concrete pavement, expansion joints shall be located opposite or at expansion joints in the pavement.

B. Mixing and Placing Concrete.

The concrete shall be of such consistency and be so spaded and worked that a smooth mortar face will be produced.

C. Protection, Curing and Finishing Concrete.

1. Protection. The forms shall be left in place for 24 hours or as directed until the concrete has set sufficiently so that they can be removed without injury to the castings. Particular care will be required to prevent any discoloration of the exposed surface.

2. Curing. When the concrete has hardened sufficiently the concrete shall be covered with acceptable burlap or other approved material and kept wet for 3 days or longer. Under extreme weather or other particular conditions proper curing shall be carried out as directed.

3. Finishing. The castings shall, immediately upon removal of the forms, be rubbed down to a smooth and uniform surface, but no plastering will be allowed. For this work a competent and skillful finisher shall be employed.

4. Protective Coating. The Concrete Penetrant/Sealer shall conform to the requirements of M9.15.0. After the concrete is at least 14 days old and after a 48-hour minimum drying period (a longer period shall be required if castings do not appear dry) just prior to the time of treatment, the exposed surface shall be cleaned to remove all oil, grime and loose

particles which would prevent the mixture from penetrating the concrete. Immediately before the application of the mixture, an air blast shall be directed over the surface to be treated so that all dust will be removed. Unless otherwise directed, the temperature of the concrete and air shall be 10 °C or higher at the time of application. For rate of application see Section M4.02.14D.

The second application of the surface treatment mixture shall not be made until the concrete, in the judgment of the Engineer, has regained its dry appearance.

Traffic shall be prohibited from the area until the concrete has regained its dry appearance.

501.64 Bituminous Concrete Curb.

The bituminous concrete mixture shall be placed and compacted with a machine acceptable and approved by the Engineer. The machine shall be capable of spreading the mixture true to line and grade and to the shape stipulated.

The bituminous concrete curb shall be placed as shown in the current Department Standards.

If any time before the acceptance of the work any soft or imperfect spots develop in the exposed surface of the curb, such material placed shall be removed and replaced with new material and compacted, without additional compensation.

501.65 Filling About Trench.

After the curb, curb corners, curb inlets, and edging is set, the space between it and the wall of the trench shall be filled with gravel thoroughly tamped to the depth directed, care being taken not to affect the line or grade of the curb, curb corners, curb inlets and edging.

501.66 Bridge Curb.

On bridges, after the concrete base has set and before the concrete in back of the curb is placed, Type VA5 curb shall be set to line and grade in full mortar beds and full mortar end joints with the anchors in the stone grouted in place.

Each curb shall be brushed clean and free of loose particles, and thoroughly wetted with clean, fresh water before setting. The stone shall be carefully bedded in a full bed of mortar and in such a way as not to slide the stone on the mortar bed.

Each stone shall be held securely in position by 2 steel anchors. The anchors shall be of the required dimensions and shapes and shall extend 75 millimeters into the curb and 150 millimeters into the concrete. Care shall be taken in placing the concrete in back of the curb to avoid disturbing the line or grade of the curb.

Wherever plans indicate a construction joint in the sidewalk, or paraffin joint in coping, the curb shall be laid out so that a joint in the curb will be opposite the joint in the sidewalk, or coping.

501.67 Pointing.

The joints between curbstones (both front and back) or edging shall be carefully filled with cement mortar and neatly pointed on the top and front exposed portions. After pointing, the curbstones or edging shall be satisfactorily cleaned of all excess mortar that may have been forced out of the joints.

501.68 Transition Curb for Wheelchair Ramps

Transitions from normal curb settings to wheelchair ramps shall be accomplished with transition curb as directed. Transitions shall be of the same type curb and similar to that abutting and, if on a curve, of the same radius.

COMPENSATION

501.80 Method of Measurement.

The length of curb (except bituminous concrete curb) and edging shall be as measured along the front arris of the curb and edging, except that where the edging is set on a curve having a radius of 3 meters or less, the measurement will be made along the edging at the lowest exposed level after completion of shoulder or pavement.

The quantity of bituminous concrete curb to be paid for will be the length actually measured along curb at its

lowest exposed edge or by metric tonnage actually used, complete in place.

Weight slips shall be countersigned upon delivery by the Engineer and slips not countersigned shall not be included for payment.

Each curb corner and curb inlet set, complete in place, will be considered one unit.

501.81 Basis of Payment.

Curb will be paid for at the contract unit price per meter under the item for the particular type of curb, complete in place.

Curved granite curb shall include all curb (except curb corners), cut to specified radius and set on curve.

The steel anchors used with Type VA5 curb will be paid for under the Item for VA5 curb.

Edging will be paid for at the contract unit price per meter for the particular type of edging, complete in place.

Where granite edging is set on a curve having a radius of 3 meters or less the work will be paid for at the contract unit price per meter, complete in place, under the respective item for the particular type of edging required.

Curb inlets will be paid for at the contract unit price each under the respective item for the particular type of inlet, either straight or curbed, complete in place.

All curb corners will be paid for at the contract unit price for each, under the item for the particular type of corner required, complete in place.

The initial excavation, except Class A Rock Excavation, when done in conjunction with excavation for sub-base will be paid for under the appropriate excavation item. The price of the curbing will include compensation for any other required excavation.

Gravel borrow for the foundations and backfilling will be paid for at the contract unit price per cubic meter under the item for Gravel Borrow.

Rock excavation, if necessary, will be paid for at the contract unit price per cubic meter under the item for Class A Rock Excavation.

501.82 Payment Terms.

501.	Granite Curb Type VA1 - Straight	Meter
501.1	Granite Curb Type VA1 - Curved	Meter
502.	Granite Curb Type VA2 - Straight	Meter
502.1	Granite Curb Type VA2 - Curved	Meter
503.	Granite Curb Type VA3 - Straight	Meter
503.1	Granite Curb Type VA3 - Curved	Meter
504.	Granite Curb Type VA4 - Straight	Meter
504.1	Granite Curb Type VA4 - Curved	Meter
505.	Granite Curb Type VA5 - Straight	Meter
505.1	Granite Curb Type VA5 - Curved	Meter
506.	Granite Curb Type VB - Straight	Meter
506.1	Granite Curb Type VB - Curved	Meter
509.	Granite Transition Curb for Wheelchair Ramps-Straight	Meter
509.1	Granite Transition Curb for Wheelchair Ramps-Curved	Meter
510.	Granite Edging Type SA	Meter
510.1	Granite Edging Type SA (Radius 3 meters or less)	Meter
511.1	Granite Edging Type SB - Straight	Meter
512.1	Granite Edging Type SB (Radius 3 meters or less)	Meter
513.	Granite Edging Type SC	Meter
513.1	Granite Edging Type SC (Radius 3 meters or less)	Meter
514.	Granite Curb Inlet-Straight	Each
515.	Granite Curb Inlet - Curved	Each
516.	Granite Curb Corner Type A	Each
517.	Granite Curb Corner Type B	Each
520.	Concrete Curb Type VA	Meter

521.	Concrete Curb Corner Type A	Each
521.1	Concrete Curb Corner Type B	Each
522.	Concrete Edging Type SA	Meter
570.1	Bituminous Concrete Curb Type 1	Meter
570.2	Bituminous Concrete Curb Type 2	Meter
570.3	Bituminous Concrete Curb Type 3	Meter
572.1	Bituminous Concrete Curb Type 1	Metric Ton
572.2	Bituminous Concrete Curb Type 2	Metric Ton
572.3	Bituminous Concrete Curb Type 3	Metric Ton
121.	Class A Rock Excavation	Cubic Meter
151.	Gravel Borrow	Cubic Meter

SECTION 580

CURB OR EDGING REMOVED AND RESET; REMOVED AND STACKED OR REMOVED AND DISCARDED

DESCRIPTION

580.20 General.

This work shall consist of removing the present curb, edging, curb corners and curb inlets of every type and cross section made of granite, concrete or granite-faced and resetting or stacking them or discarding them in accordance with these specifications and in close conformity with the lines and grades shown on the plans or established by the Engineer.

MATERIALS

580.40 Curb Edging, Curb Inlets and Curb Corners.

Curb, edging, curb inlets and curb corners shall consist of so much of the same as is suitable, in the Engineer's judgment to be reset or stacked.

580.41 Gravel.

Gravel shall conform to the requirements of Subsection M1.03.0, Type c of Division III, Materials.

CONSTRUCTION METHODS

580.60 Removal.

A trench of sufficient width and depth shall be excavated so that the present curb, edging, curb corners and curb inlets can be removed without damage.

580.61 Protection.

The Contractor shall protect all curb or edging and keep it in satisfactory condition until the acceptance of the entire contract. Particular care will be required to prevent any unsatisfactory discoloration of the curb or edging. The Contractor shall replace any existing curb, edging, curb corners and curb inlets that is to be reset, which is lost or damaged as a result of his/her operations, or because of his/her failure to store and protect it in a manner that would eliminate its loss or damage.